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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/897,236

07/02/2001

Eiji Nakashio

09792909-5084

8218

7590

02/09/2004

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EXAMINER

HEINZ, ALLEN J

ART UNIT

PAPER NUMBER

2653

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/897,236

Applicant(s)

NAKASHIO ET AL.

Examiner

A. J. HEINZ

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

Art Unit: 2653

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/2/04 has been entered.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of

Art Unit: 2653

section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 8-15 are rejected under 35 U.S.C. §102(e) as being anticipated by Hayashi.

See Fig. 17. Note, to the extent claimed, the listed elements read on the claimed structure:

As per Hayashi's disclosure, specifically col.15, lines 33-36, the shield layer and electrode layer may be combined into one layer or fabricated as separate layers as for example shown in figure 17. When one of the upper or lower shield-electrode layers are combined and also have a gap layer, as is suggested in col.15, lines 36-40, the gap layer can be sandwiched between the tunnel junction element and the combined shield-electrode [see for example the embodiment for figure 12 and described in col. 10, lines 55-59]. Wherein conductive gap layer 25 (figure 12) would be formulated as per the materials indicated in col.15, lines 65-67 for any of the conduction electrode layers.

4. Claims 8-19 are rejected under 35 U.S.C. §102(e) as being anticipated by Hayashi.

See Fig. 16; which shows upper shield layer 15; lower

Art Unit: 2653

shield layer 11; upper and lower electrode layers 14&12; free layer 2 which is less than the width of the fixed/pinned layer 4.

Alternatively, the electrode layers (12,14) themselves may be considered the gap layers and be composed of the exemplified materials [see col.15, lines 65-67]. Note; the claims do not differentiate between gap layer construction/materials vs the electrode layers.

Re claim 16, see structure as shown in Addendum B.

5. For a complete response applicant should identify how the claimed structure of his invention defines over **all** the art of record.

Moreover, where the applicant disagrees with the reasoning and/or application of the prior art on critical points of the claims, they should identify how the claimed structure of their invention defines over **all** the art of record not just the applied art.

Where applicant believes that the art is redundant and/or superfluous relative to the critical aspects of the claimed invention the applicant may simply state so in rebuttal summary.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. J.

Art Unit: 2653

HEINZ whose telephone number is (703) 308-1544. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM KORZUCH can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

A. J. HEINZ  
Primary Examiner  
Art Unit 2653

A handwritten signature in cursive script, appearing to read "A. J. Heinz", is written over the typed name and title.

*Addendum B*

FIG. 15

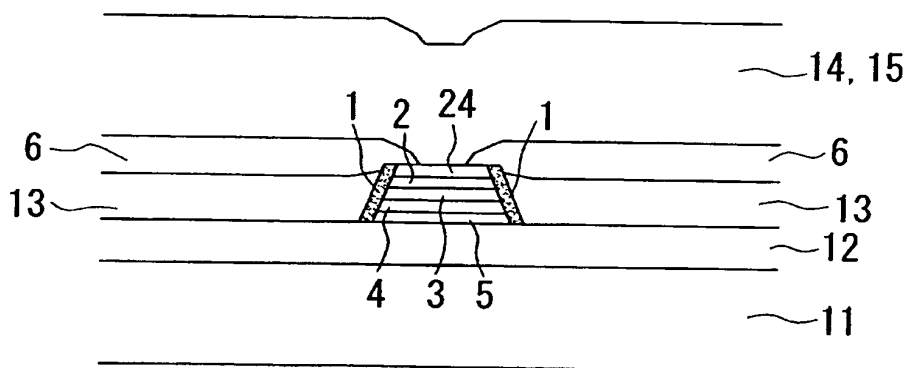


FIG. 16

